

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 14936 - L2 Version 2  
Chandra X-Ray Center

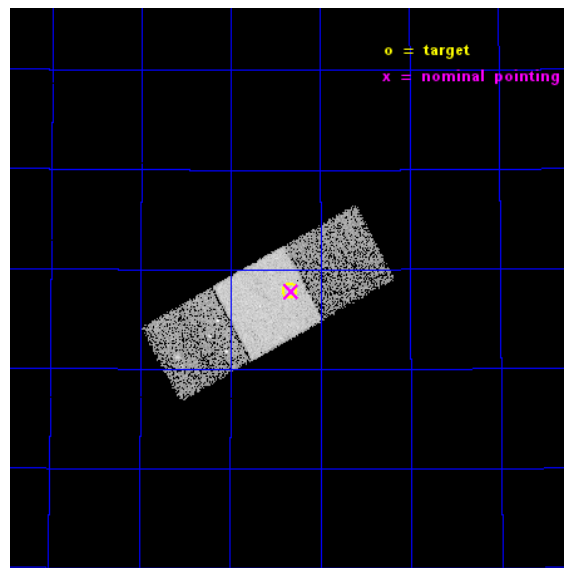
L2 Processing Date : Nov 30 2014

## Contents

<b>1</b>	<b>Front</b>	<b>2</b>
<b>2</b>	<b>OBI</b>	<b>3</b>
2.1	OBI . . . . .	3
2.1.1	Images . . . . .	3
2.1.2	Bias . . . . .	3
2.1.3	Parameters . . . . .	4
2.1.4	Events . . . . .	4
2.2	Compared Parameters . . . . .	5
2.3	Aspect . . . . .	6
2.4	Star Slots . . . . .	9
2.4.1	Slot 3 . . . . .	9
2.4.2	Slot 4 . . . . .	10
2.4.3	Slot 5 . . . . .	11
2.4.4	Slot 6 . . . . .	12
2.4.5	Slot 7 . . . . .	13
2.5	FID Slots . . . . .	14
2.5.1	Slot 0 . . . . .	14
2.5.2	Slot 1 . . . . .	15
2.5.3	Slot 2 . . . . .	16
<b>A</b>	<b>Summary</b>	<b>17</b>
A.1	Status . . . . .	17
A.2	Comments . . . . .	17

# 1 Front

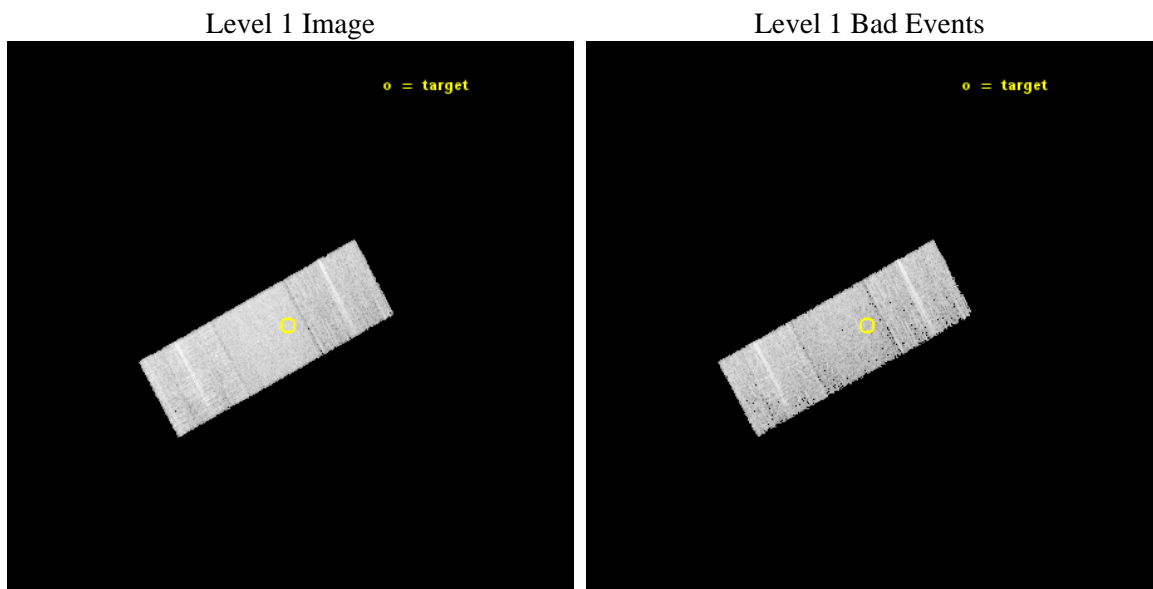
seq_num	601066	Sequence number
obs_id	14936	Observation id
title	Testing supermassive black hole feedback in a pristine environment	&#160
observer	Brendan Miller	Principal investigator
object	NGC 2518	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	121.834583	Observer's specified target RA [deg]
dec_targ	51.131667	Observer's specified target Dec [deg]
ra_nom	121.83037442022	Nominal RA [deg]
dec_nom	51.130176929868	Nominal Dec [deg]
roll_nom	151.29235093962	Nominal Roll [deg]
revision	2	Processing version of data
ontime	10117.80923444	Sum of GTIs [s]
livetime	9985.6126081696	Livetime [s]
ontime6	10114.627224088	Sum of GTIs [s]
ontime7	10117.80923444	Sum of GTIs [s]
ontime8	10117.727154434	Sum of GTIs [s]
l2events	44623	Number of level 2 events



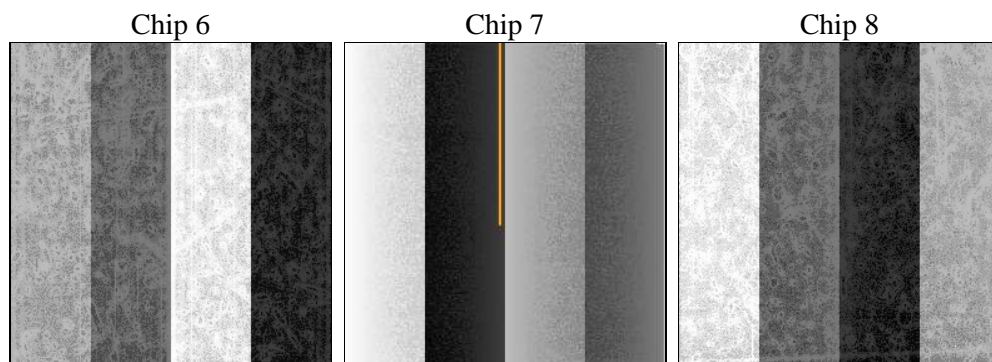
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	10000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	10117.80923444	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime6	10114.627224088	Sum of GTIs [s]
date	2014-11-30T22:09:06	Date and time of file creation	ontime7	10117.80923444	Sum of GTIs [s]
revision	2	Processing version of data	ontime8	10117.727154434	Sum of GTIs [s]
			l1events	203427	Number of level 1 events

### 2.1.4 Events

	<b>ccd 6</b>	<b>ccd 7</b>	<b>ccd 8</b>
level 1 events	55232	73976	74219
rejected events	48652	41488	53455
rejected %	88%	56%	72%

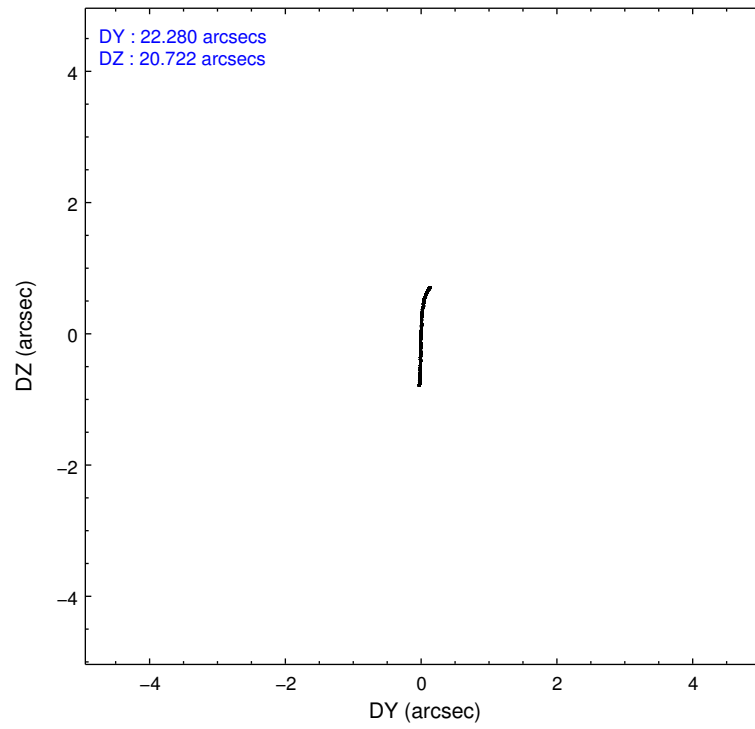
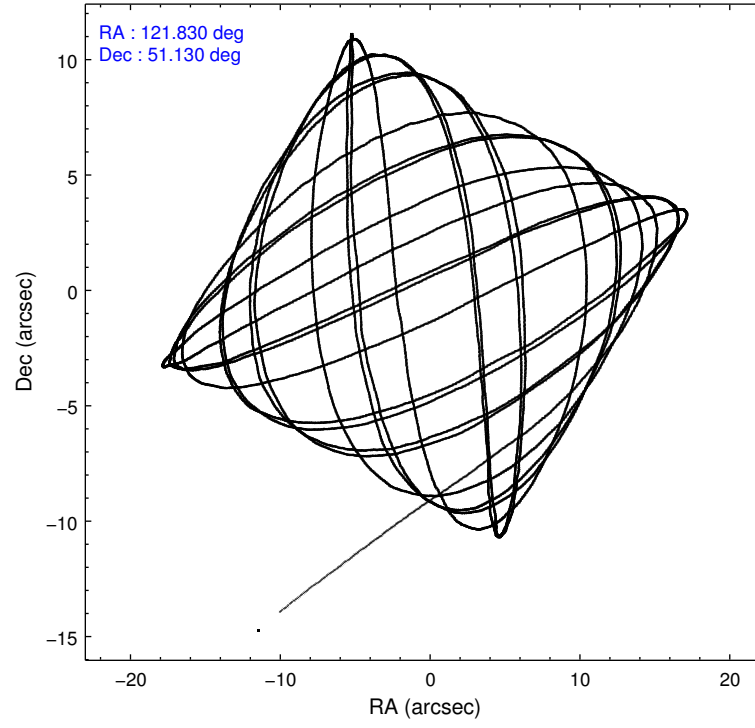
	<b>ccd 6</b>	<b>ccd 7</b>	<b>ccd 8</b>
grade 0 events	2149	2924	6414
	3%	3%	8%
grade 1 events	25	84	68
	0%	0%	0%
grade 2 events	1495	6661	4905
	2%	9%	6%
grade 3 events	695	2856	2104
	1%	3%	2%
grade 4 events	672	2850	1997
	1%	3%	2%
grade 5 events	2817	7909	4143
	5%	10%	5%
grade 6 events	1574	17219	5353
	2%	23%	7%
grade 7 events	45805	33473	49235
	82%	45%	66%

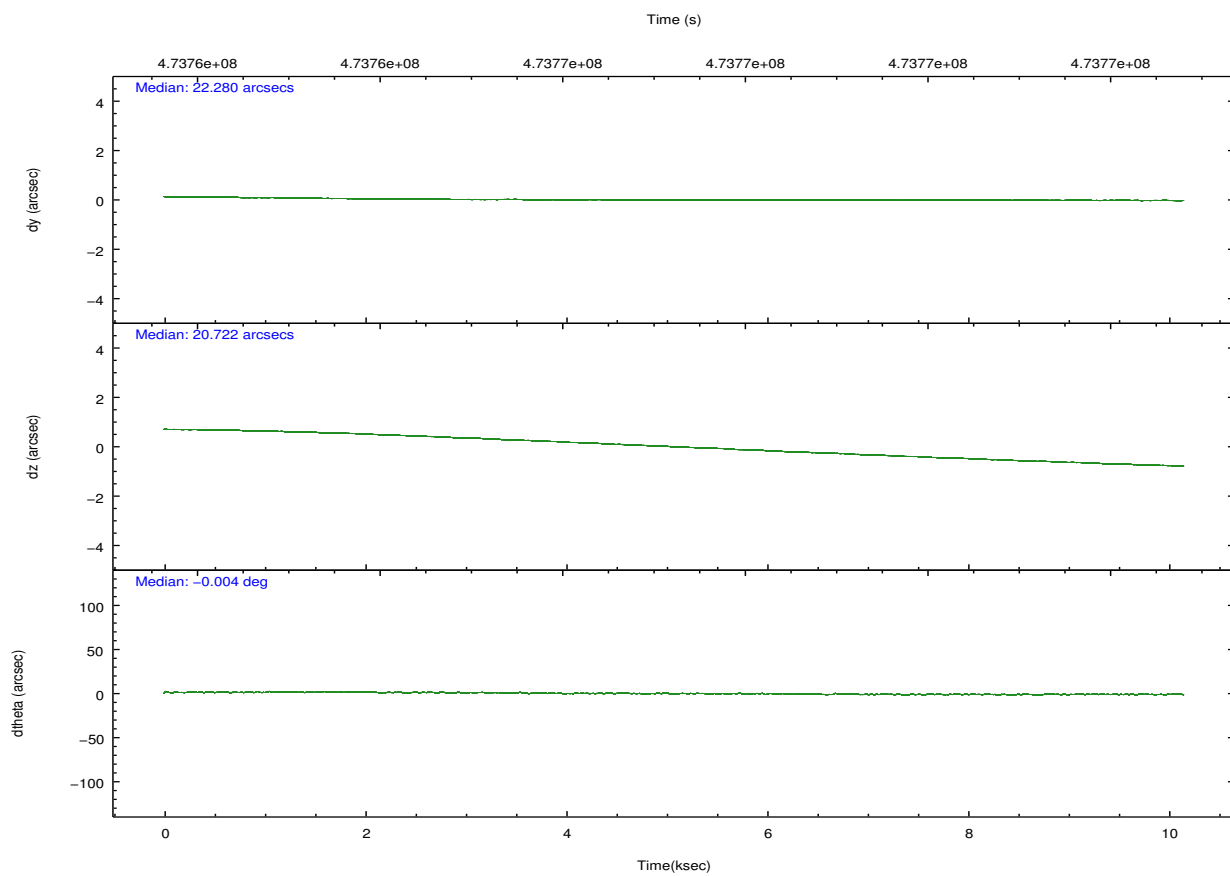
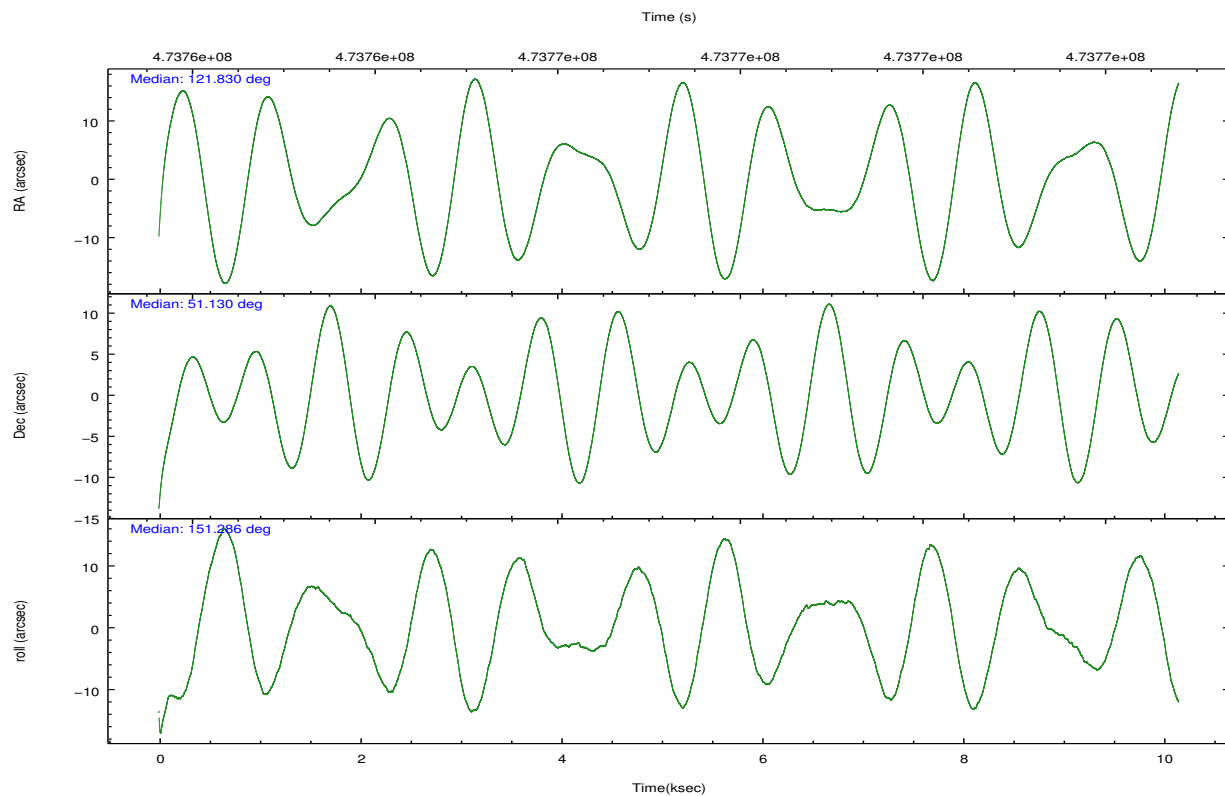


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-678	ACIS-678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	121.873902	121.8303744202151	CCD I2 on	N	N
[deg] Pointing Dec	51.131196	51.1301769298681	CCD I3 on	N	N
[deg] Pointing Roll	151.101852	151.2923509396186	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	N	N
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	O1	Y
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	O2	Y
[s] Observation start time (MET)	473762282.184000	473761074.92396	CCD S5 on	N	N
Observation start date	2013-01-05T08:36:55	2013-01-05T08:17:54	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	473772282.184000	473773052.56211	On-chip summing requested	N	N
Observation end date	2013-01-05T11:23:35	2013-01-05T11:37:32	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



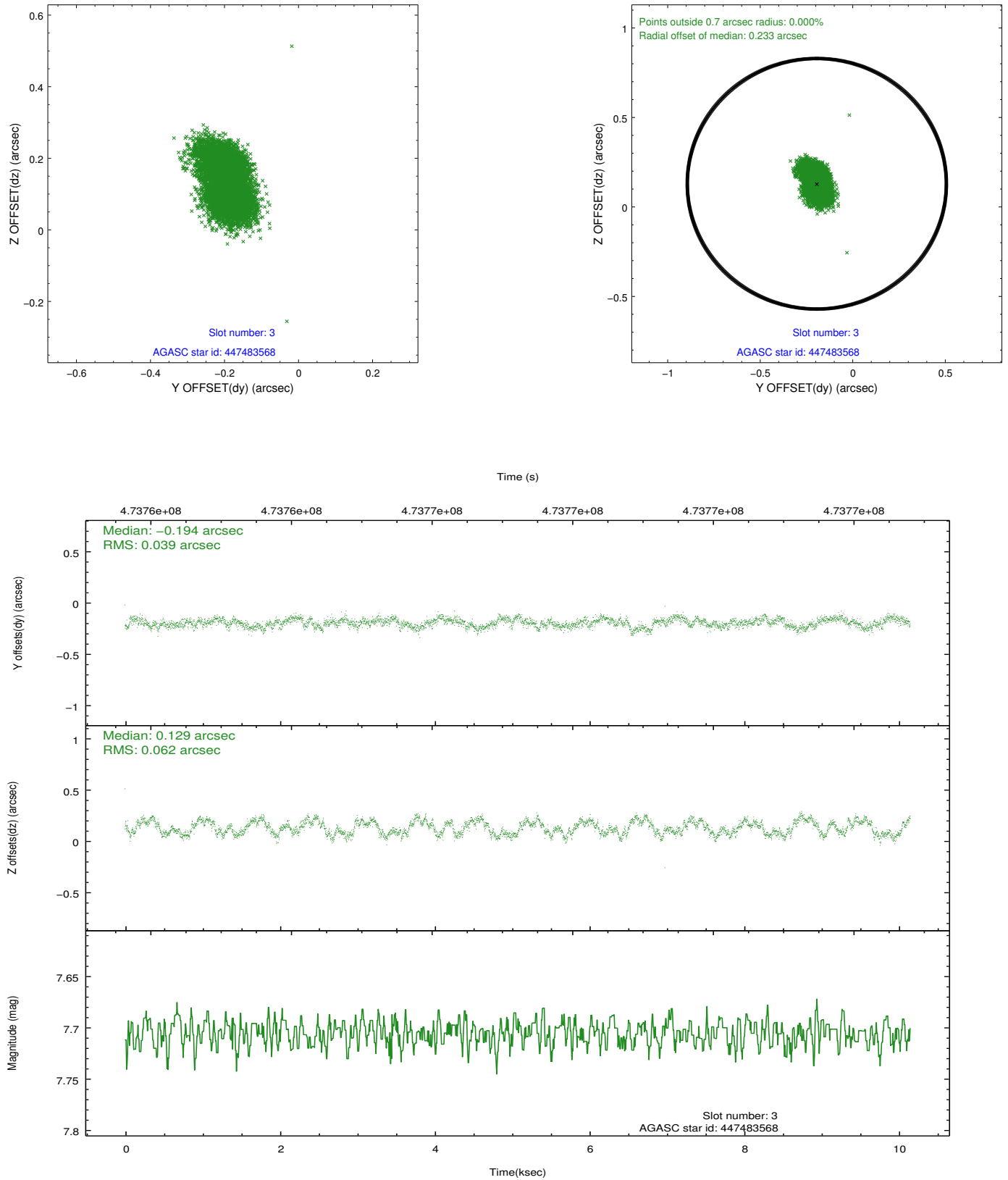


### Slot Statistics

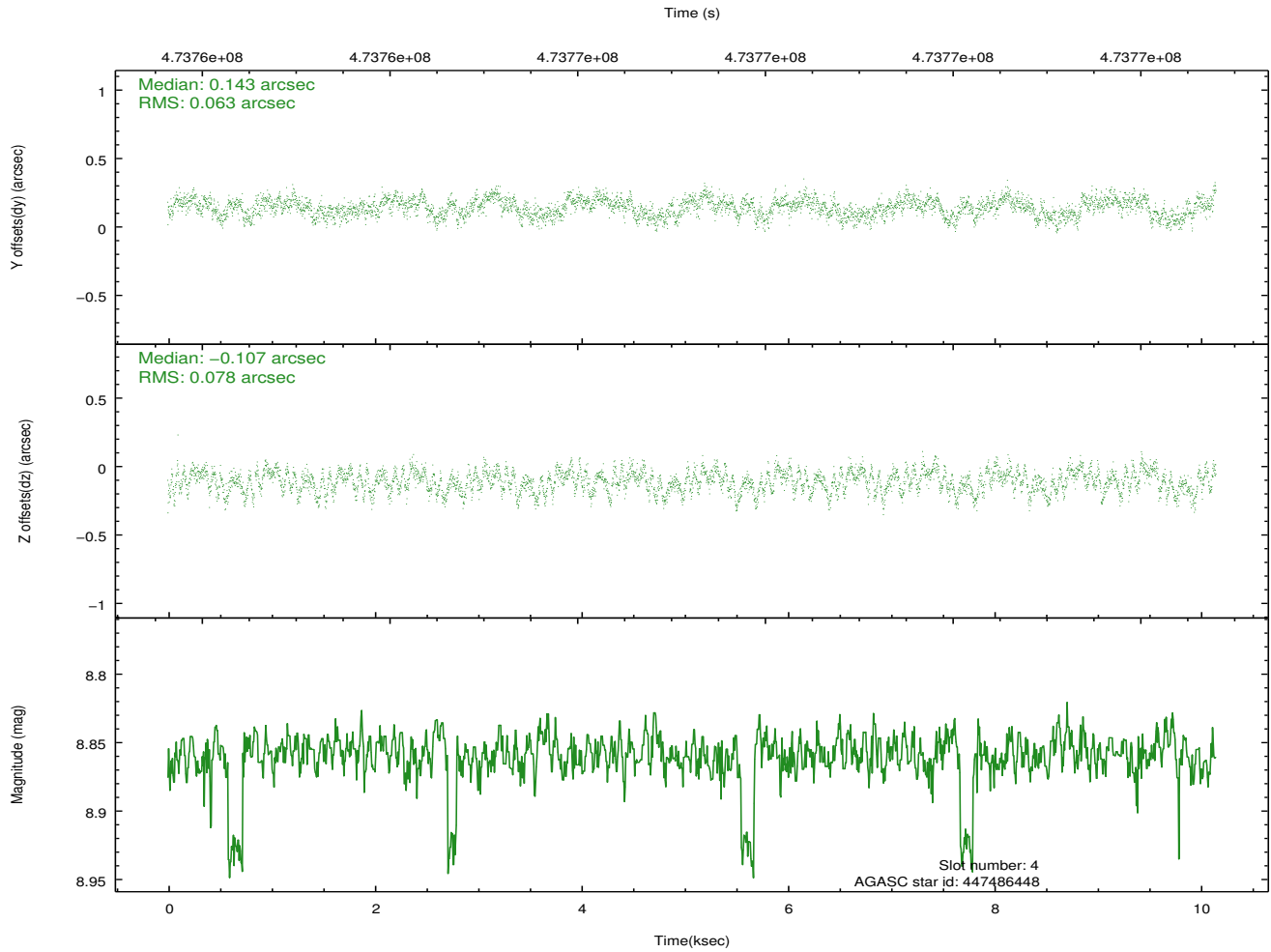
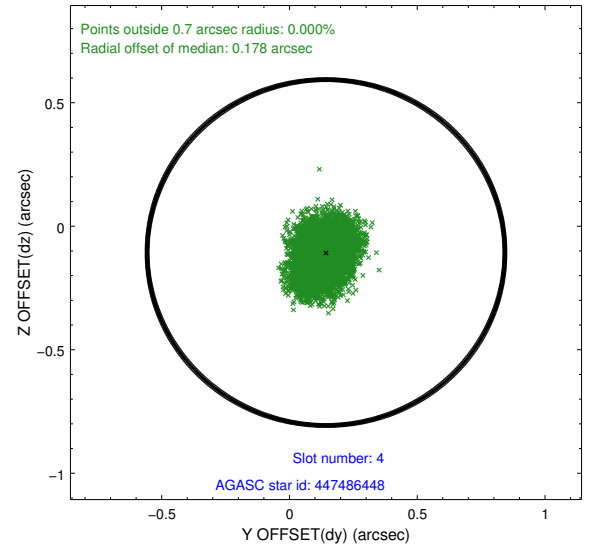
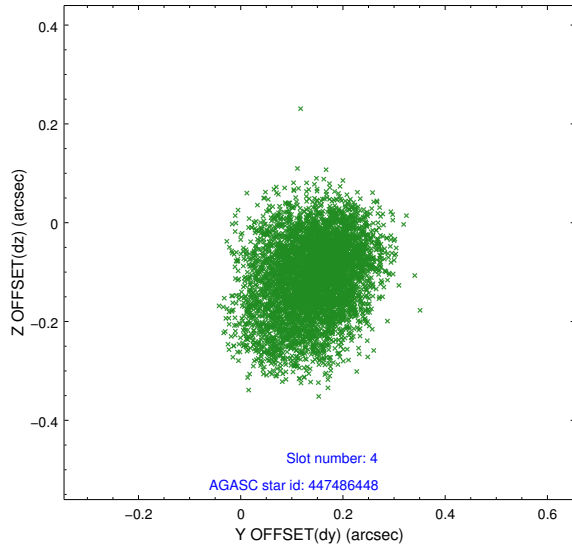
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.93	2476	-0.102	0.002	0.011	0.018	0.000000	0.000000	-775.56	-1742.20
1	FID		ACIS-S-4	7.01	2476	0.231	0.048	0.010	0.016	0.000000	0.000000	2137.80	165.79
2	FID		ACIS-S-5	7.05	2474	-0.161	-0.042	0.008	0.014	0.000000	0.000000	-1827.80	159.96
3	GUIDE	used	447483568	7.71	4953	-0.194	0.129	0.080	0.120	121.481092	51.687111	1736.09	-1330.14
4	GUIDE	used	447486448	8.86	4941	0.143	-0.107	0.109	0.172	122.321784	50.936035	-1226.81	121.20
5	GUIDE	used	447487200	8.78	4953	-0.120	-0.183	0.092	0.152	121.172966	50.935392	1055.00	1379.27
6	GUIDE	used	447489504	9.72	4920	0.146	0.205	0.197	0.295	122.499231	51.266144	-994.72	-1110.82
7	GUIDE	used	447489648	8.99	4949	0.043	-0.039	0.113	0.181	121.861517	50.889434	-395.89	775.32

## 2.4 Star Slots

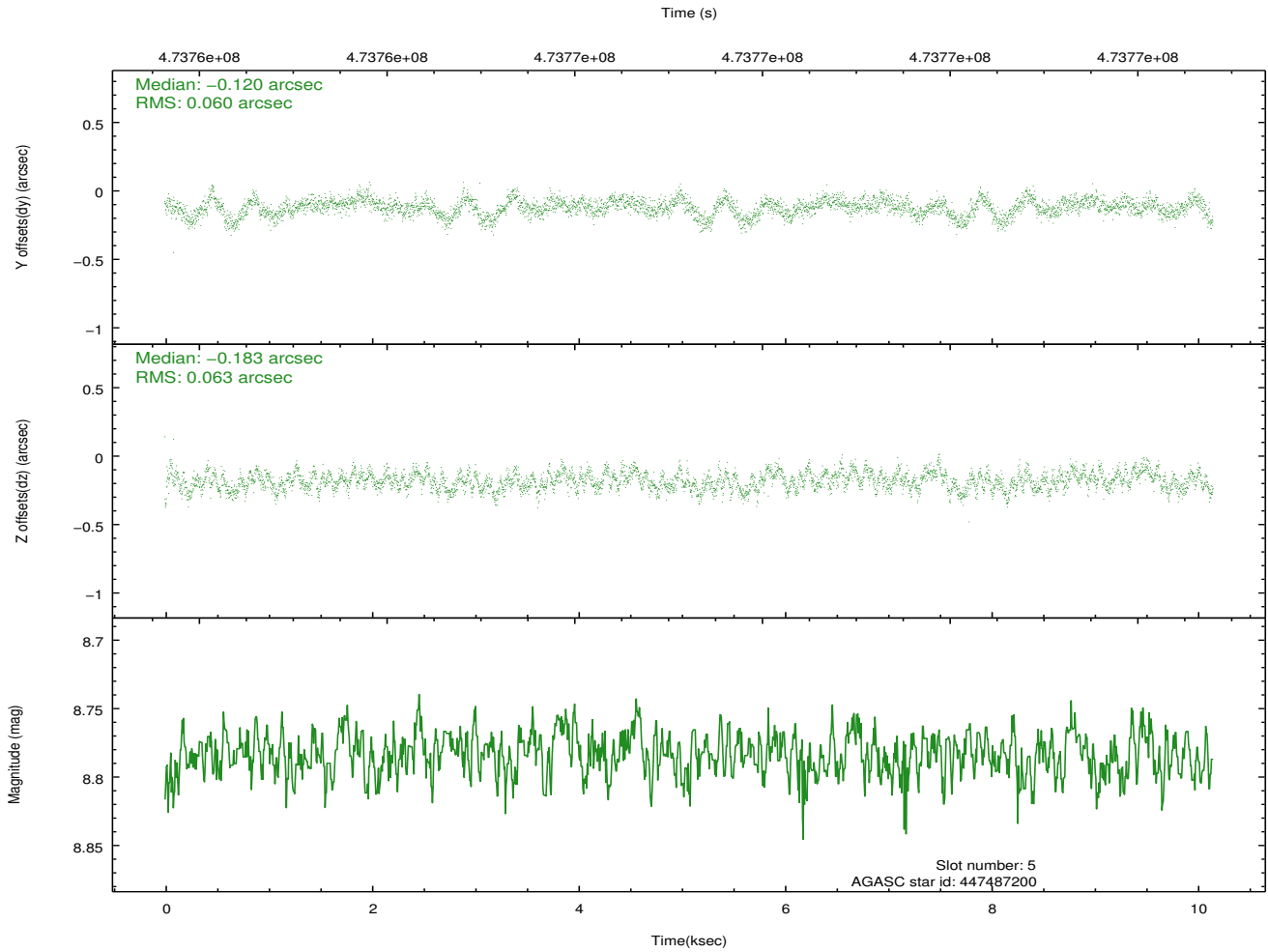
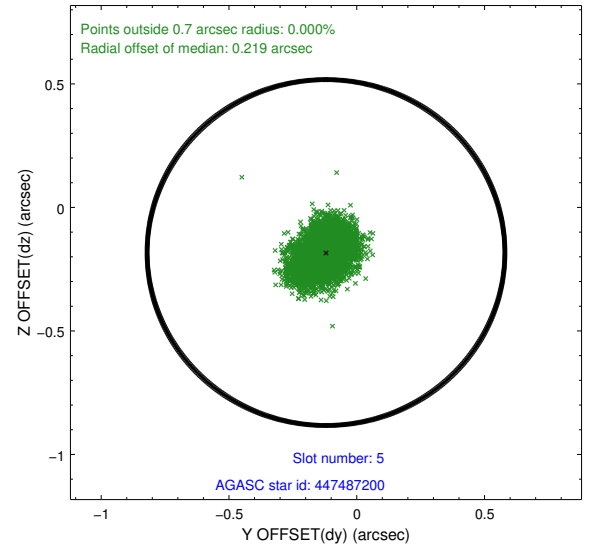
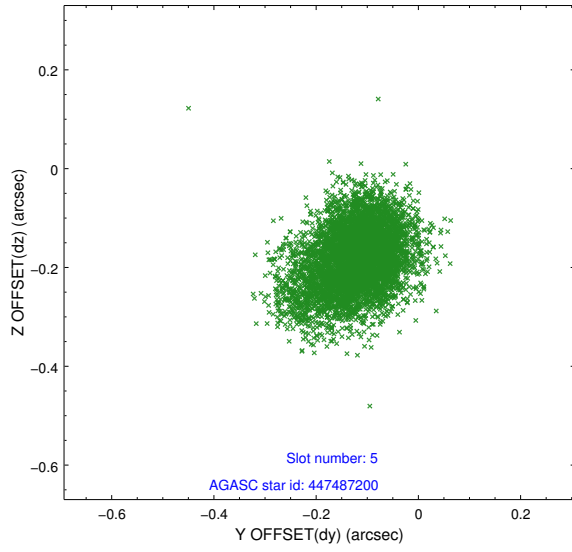
### 2.4.1 Slot 3



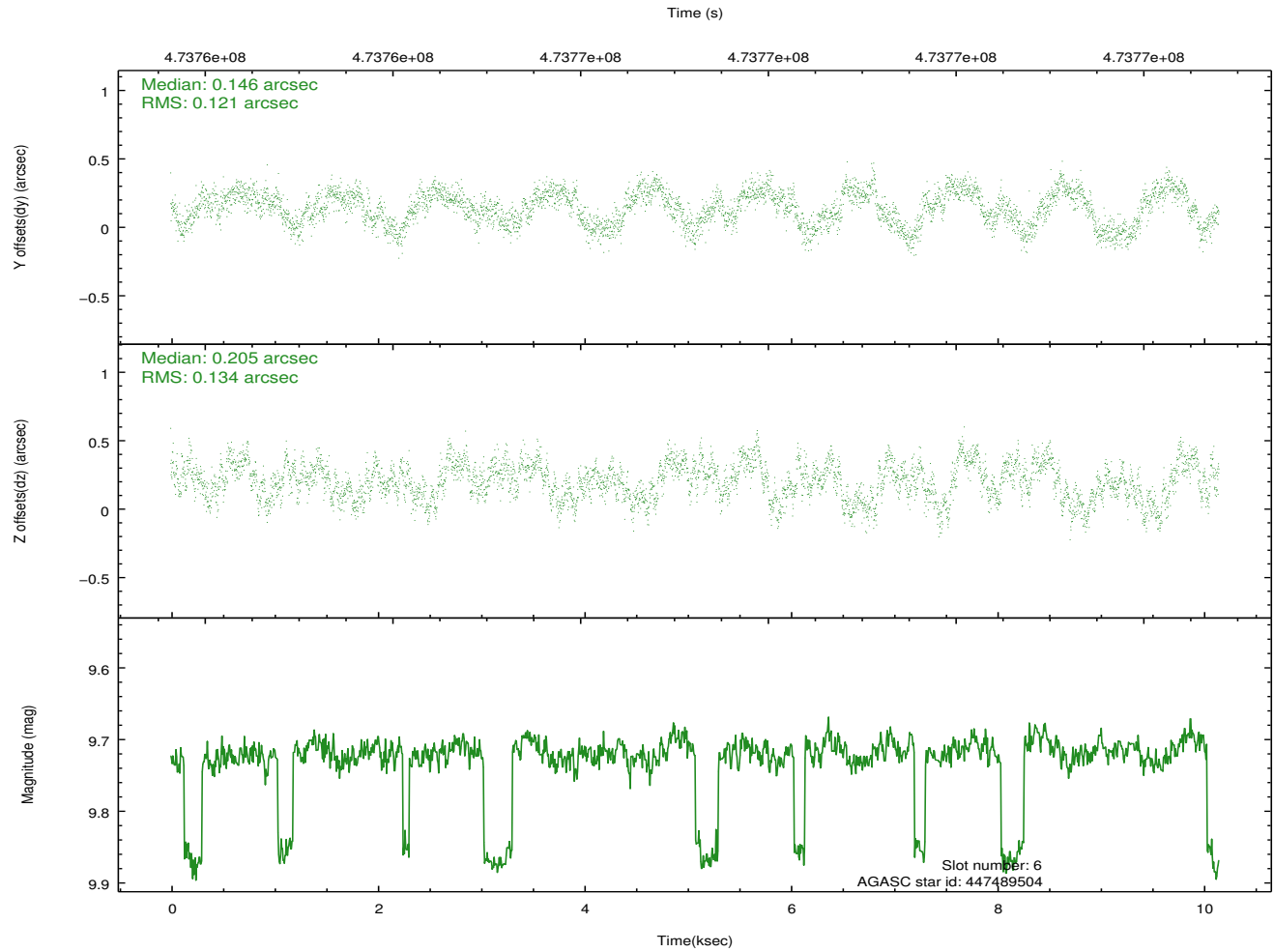
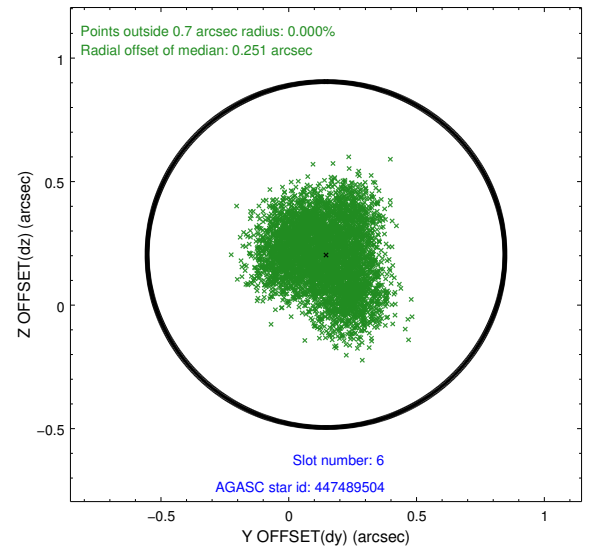
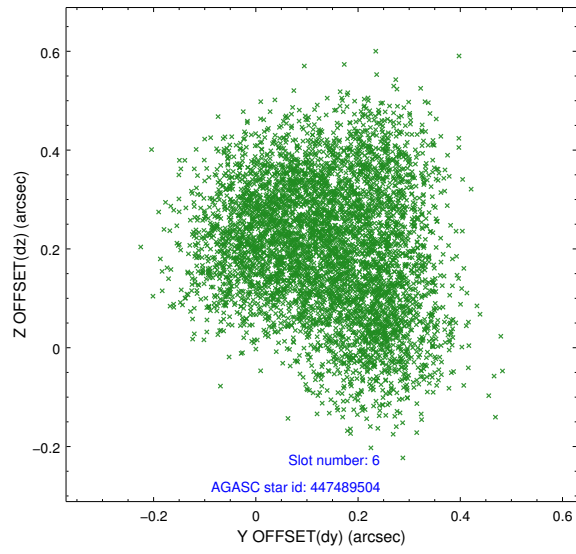
## 2.4.2 Slot 4



### 2.4.3 Slot 5

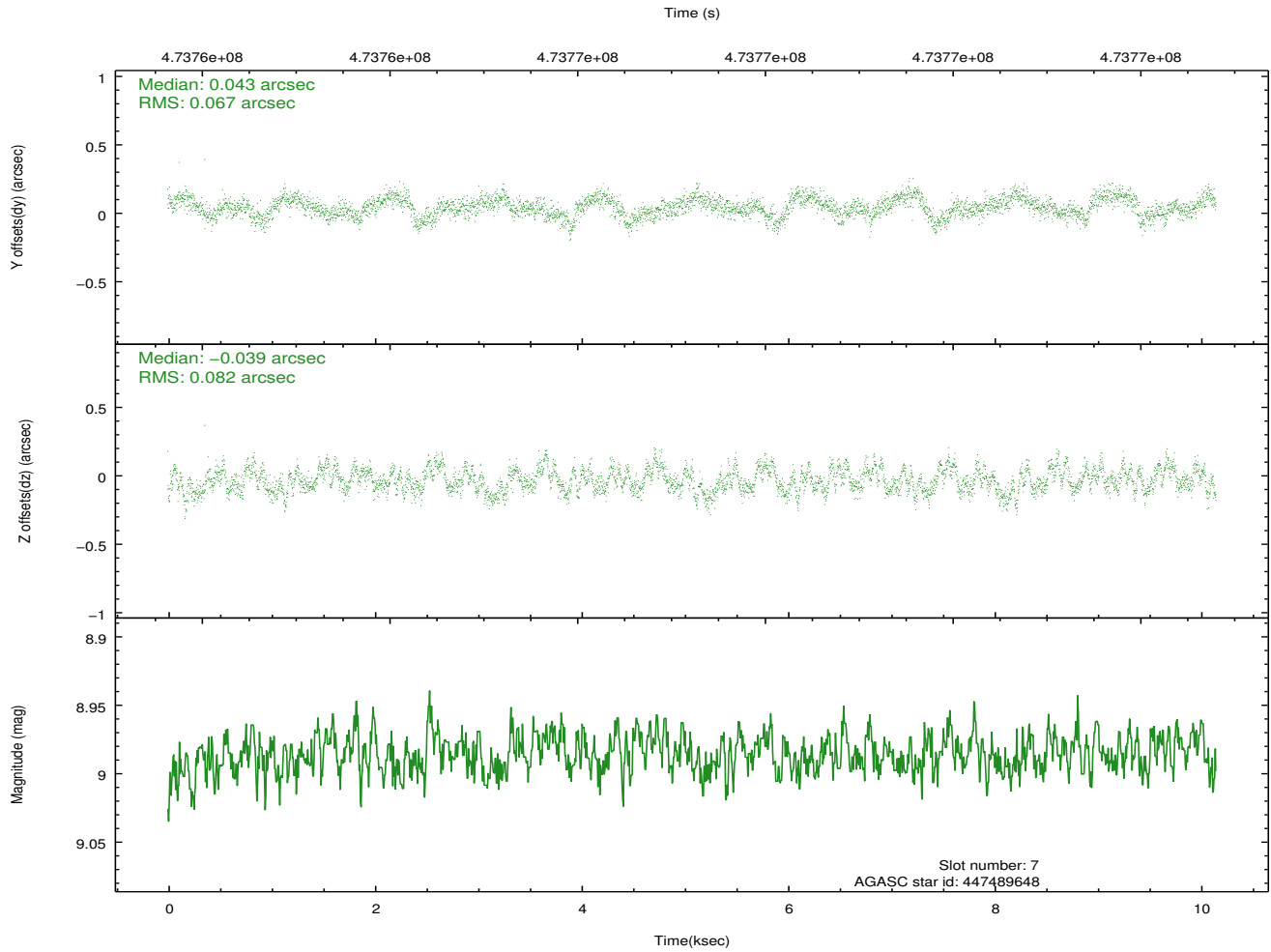
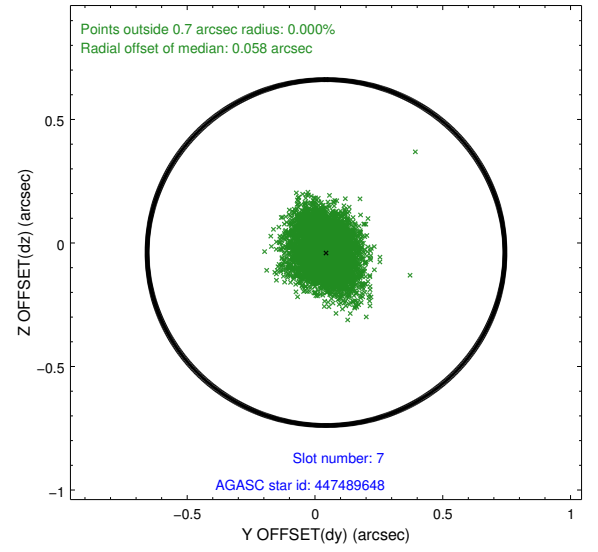
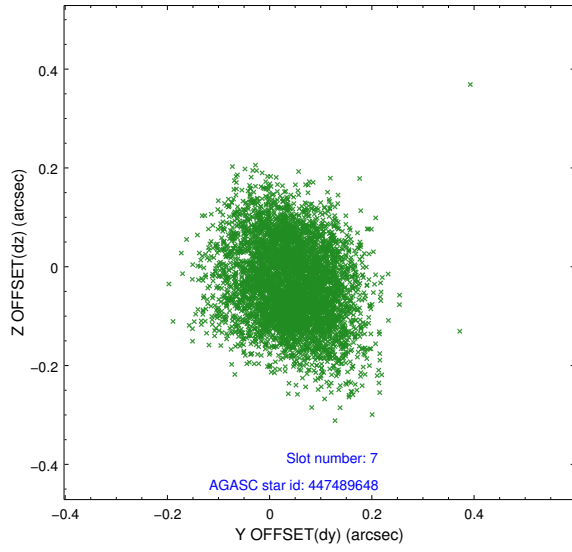


## 2.4.4 Slot 6



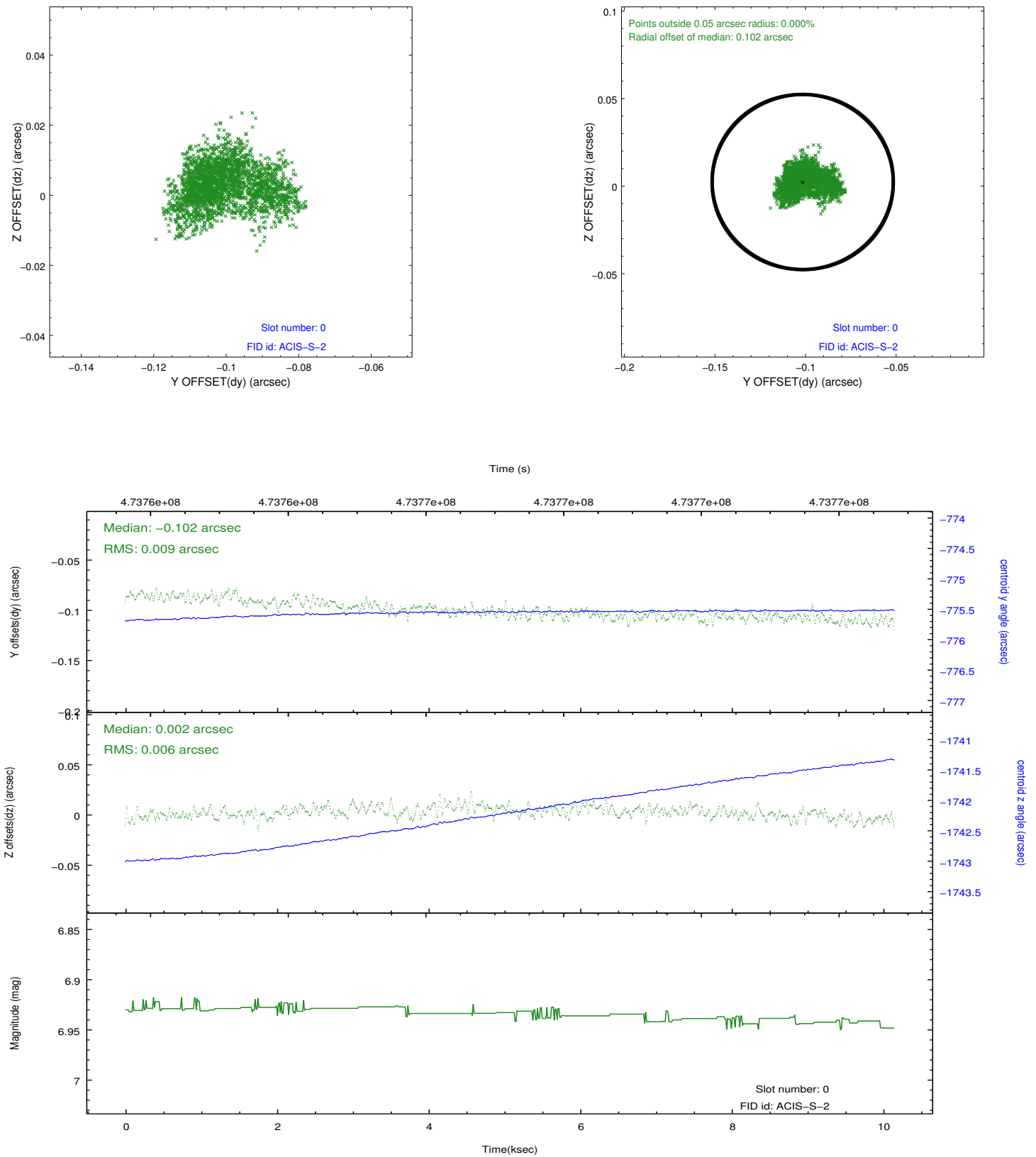


## 2.4.5 Slot 7

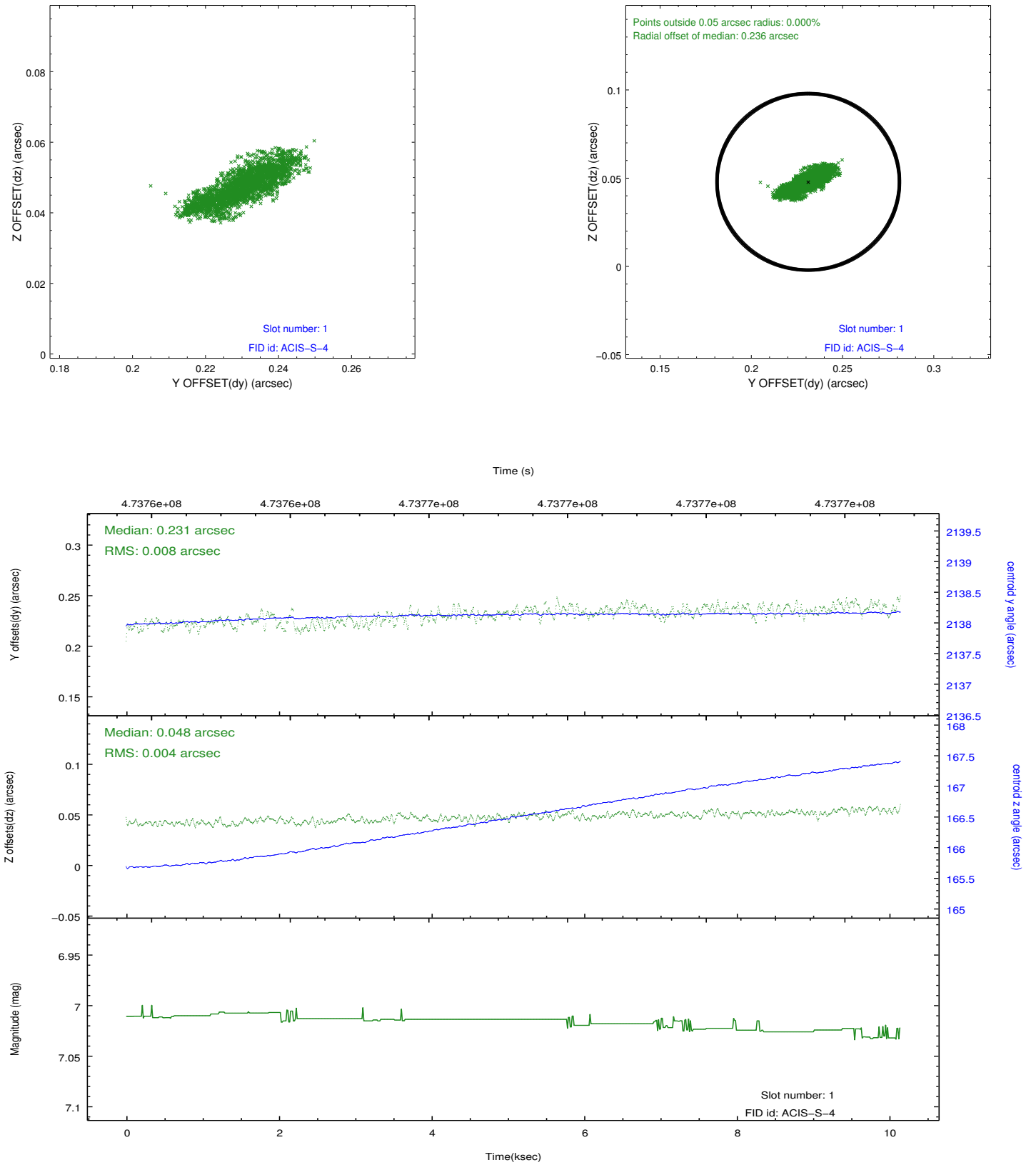


## 2.5 FID Slots

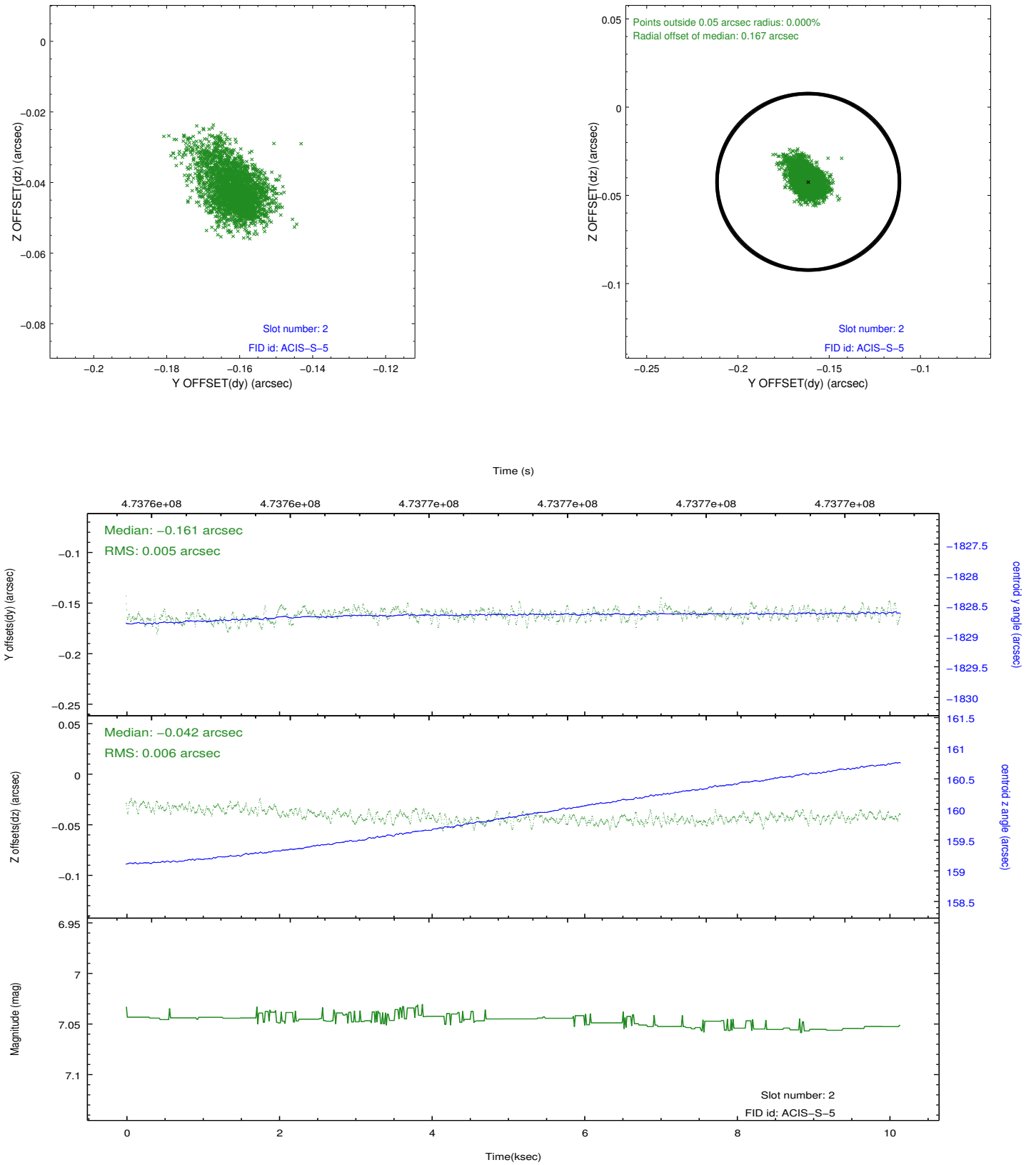
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2014.12.04
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.11780923444

## A.2 Comments

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.